BRAINWARE™ KIT BOOKLET

BRAINBANK courseware is written by experienced teachers. The text and its presentation are carefully created to hold interest.

BRAINBANK packaging is practical. It is designed to be stored vertically. Vertical storage is not only a space saver, it protects the stored material and adds to diskette and cassette life.

All **BRAINBANK** lessons are duplicated on the best quality recording materials.

Clearly-labelled diskettes should be kept in the specially-treated "portable" jackets and tucked inside the **BRAINWARE™** KIT unless they are in use in a disk drive.

Following this procedure makes it unlikely that the courseware will be misplaced or separated from its storage place.

BRAINBANK lessons on diskette can be used in any order (though it is recommended that users RUN the tests last). **BRAINBANK** lessons on diskette are programmed to be "menu-driven." This enables any program on the diskette to be LOADed by typing just one key, rather than typing a command and a title for the lesson as is usually done.

Every **BRAINBANK** lesson is a vivid and guided educational experience. **BRAINBANK** creates adventures in learning.

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THE MICROCOMPUTER . . . LEARN FROM IT!

"At last! We—you and I, everybody—are really in the computer age! With the arrival of the personal computer, we have progressed to a world . . . in which we can all learn to control a computer and use its vast capabilities to enhance our lives . . . The computer is the most versatile, powerful, useful, exciting learning tool in history. Everyone who can learn, can learn with it . . . (and) . . . benefit from the computer's speed, accuracy, versatility, (and) discipline . . . The computer . . . is a dynamic and actively involving medium that engages students on multiple levels . . . Its programmable traits of patience, motion, change, interaction, individual responses, and even playfulness, offer new learning opportunities . . . Here is a machine to attract the spirit, spontaneity, and appreciation of novelty that is in all of us . . .

The advantages of computer learning are numerous. A computer is infinitely patient. Users can work at their own pace. Feedback can be immediate. Learners can know how they are doing while they are doing it. And, it's fun and easy to use. Learning at a computer is low risk. Mistakes are a matter between the individual and the machine . . . Learning takes effort, but it is much easier when motivation is high . . . and the microcomputer can deliver high-quality instruction in manageable bits of information . . . building confidence as it provides success and excitement.

Consumers are catching on to the true potential of microcomputers. The computer society has arrived . . . You don't have to learn about or understand electronics or develop programming skills to use . . . or benefit from microcomputers . . . Just push a button, follow the instructions on the display screen and presto! Everyone is a computernik, touching tomorrow's technology today."

The excerpts above are from the book "CREATING COURSEWARE—A Beginner's Guide" by Ruth K. Landa, President of **BrainBank**, Inc., published by Harper & Row, 1984

THE BRAINBANK PRIMER

BRAINBANK lessons are wonderful. There are at least five lessons in every **BRAINBANK** diskette or cassette title. But you cannot work with them unless the computer is on. First the program must be LOADed into the microcomputer's memory.

Directions for LOADing your computer are included in your microcomputer manual.

TWO-WAY SIGNALS

A microcomputer exists to interact with you. Unlike a person, however, a microcomputer can only do as it is told. For all its wizardry, a computer does nothing without you, so you must command it to do something.

Usually a verb, such as LOAD or RUN, is used for a command. A command is typed on the keyboard.

THE "RETURN" KEY: As you type a command on the keyboard, it will appear on the screen. You let the computer know that you are finished with your entry, whether a command or a response, by pressing the "RETURN" key.

THE CURSOR: When the microcomputer finishes doing what you commanded, it will flash its cursor—a small, lighted square box on its screen. When the cursor appears, the computer wants you to do something. When it disappears, the microcomputer is doing something.

Remember: You press the "RETURN" key to have the microcomputer respond to you; the microcomputer will flash its cursor to have you respond to it.

GETTING YOUR ATTENTION

To attract your attention somewhere on a screen, **BRAINBANK** lessons sometimes underline information, sometimes flash information, and/or sometimes highlight information.

Highlighted information is reverse print—dark letters on a light background.

QUESTIONS AND ANSWERS

BRAINBANK lessons will ask you questions. Do not type an answer until the cursor flashes. If you type a response before the computer "asks" for it, it will be treated as a wrong answer even if it is right! The microcomputer is too busy to "hear" you until it flashes its cursor.

However, when the cursor does flash, you may take all the time you need to answer.

And don't forget—the computer will not know you are finished answering until you press the "RETURN" key.

When a question is answered correctly, **BRAINBANK** courseware responds with a highlighted comment on the lower left portion of the screen.

When a question is NOT answered correctly, **BRAINBANK** courseware also responds on the lower left portion of the screen. However, the comment will not be highlighted.

If the response is NOT correct, **BRAINBANK** courseware may give a hint, or give the answer, or suggest another choice be tried.

In some lessons, **BRAINBANK** courseware will work out an example to illustrate how you should respond to questions.

Check your answer on the screen as you type it on the keyboard. If you discover a typing or other error, correct it before you press "RETURN." Instructions on deleting or backspacing in order to "erase" a mistake can be found in the microcomputer manual.

Occasionally, **BRAINBANK** questions require "yes" or "no" for an answer. The computer will instruct you to "Type Y or N" to make this response.

A space between letters or words on a microcomputer's screen may be nothing to you, but it is something to a microcomputer—a character. Therefore, if you have a blank space in or after your answer, the microcomputer considers that answer misspelled. Microcomputers are just that fussy!

Unless the microcomputer gets specifically what it is programmed to look for in a response, it will either indicate an error or not react at all. The microcomputer demands that you follow instructions exactly, that you spell correctly and that you command it clearly.

Probably you will end up loving it for its insistent emphasis on precision. And you'll never have to wonder who is responsible for a mistake. It won't be the microcomputer.

MOVING RIGHT ALONG

On a microcomputer you "turn a page" by advancing the screen. While some screen displays on **BRAINBANK** lessons, such as the title screen, are timed to advance by themselves, most **BRAINBANK** screens enable the user to determine the amount of time needed.

The microcomputer will wait for you indefinitely, without commenting, advising you to

TYPE ANY LETTER TO CONTINUE

when you are ready. Do just that and you'll move ahead. Type any letter at all.

(Yes, any letter! Try them. They all work.) Or, press the long narrow bar at the bottom of the keyboard. (This is the space bar.)

If the microcomputer does not give you instructions, you know the program will advance automatically.

BRAINBANK lessons on a cassette or diskette do not have to be used in any order. No lesson is a prerequisite for any accompanying lessons. However, it is expected that users will RUN through the Review Test program last as it measures comprehension of the other lessons.

Make sure you will have enough time to complete a lesson before you begin. You cannot pick up where you "left off" and you cannot start a lesson in the middle.

If you should wish to stop a **BRAINBANK** lesson in progress, NEVER turn off a Commodore computer with a diskette in a disk drive. First remove the diskette and place it in its "portable" jacket, then store it in the **BRAINWARE™** KIT, then turn off the microcomputer.

The Apple may be turned off with a diskette LOADed in the drive.

Never turn off the microcomputer with a cassette in the tape deck and the PLAY key depressed. Rewind the tape to its beginning. Depress the STOP EJECT key and remove the cassette and place it in its storage form inside the cover of the **BRAINBANK** KIT.

The on/off switch for the microcomputer is located on its back panel in the lower left.

Alas, **BRAINBANK** lessons do come to an end. Shortly after "LESSON COMPLETE" appears on the screen, the menu will be re-presented.

To proceed to the next lesson, type the letter or the number of the one with which you want to work.

To stop, turn the computer off.

CARE OF CASSETTES AND DISKETTES

A cassette is a cartridge containing magnetic recording tape. Information can be stored and erased on this magnetic tape. The cassette is designed to be inserted into a tape deck. The surface of the magnetic tape should not be touched. It is best to rewind the tape to its beginning before removing the cassette from the tape deck. Store cassettes away from heat and any source of magnetism such as running motors, etc.

A diskette is a small coated plastic disk. Information can be stored on and erased from its surface. The diskette is permanently packaged in a square black plasticized cover which protects it and helps keep it clean.

The surface of the diskette should never be touched. Though the diskette is flexible and often termed a "floppy," bending it will damage it. Avoid scratching a diskette, placing it on a dirty or greasy surface or letting it collect dust.

A diskette is fragile and should remain in its protective jacket when it is not being used in the disk drive.

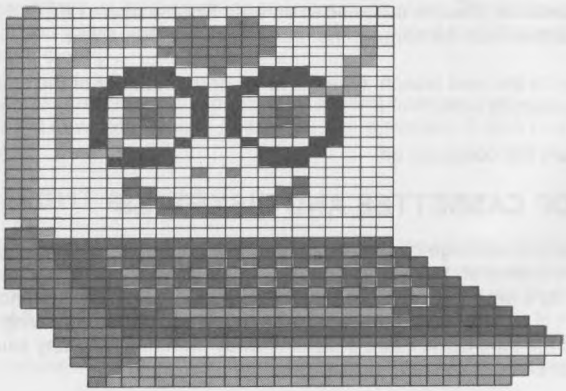
Diskettes are sensitive to extremes of temperature. Keep them out of the sun and away from heat which can cause them to warp and/or lose data. Beware of car trunks and dashboards when the temperature is high!

A magnetic field can distort information stored on diskette or cassette. Therefore, keep them away from magnetic fields, which are created by electronic equipment, recorders and other sound-reproducing equipment, and running motors, such as in vacuum cleaners, etc.

BE A BRAIN

When your microcomputer lets you know that the **BRAINBANK** lesson is in its memory, be ready for a dialogue with your microcomputer and an adventure in learning.

Give your computer a reason for being: Buy **BRAINWARE™** by **BRAINBANK**!



"SIGHT-SAYING"
A Pronunciation Guide

BrainBank has created its own consistent pronunciation guide because the microcomputer does not have phonetic symbols on its keyboard.

Throughout **BrainBank** lessons, words constructed from these phonemes will appear in parenthesis on the display screen as a guide to correct pronunciation.

The syllable that should be accented is either highlighted or underlined.

	PHONETICS	
	DICTIONARY	**BrainBank**
BANANA, COLLECT, ABUT	ə	UH
OPERATION, FURTHER, TERM	ər	UHR
BIENNIAL	ă	UH
MAT, SNAP, GAG	a	AAH
DAY, FADE, CAPE	ā	AY
HOT, BOTHER	ä	AH
NOW, LOUD, OUT	aü	OW
BABY, CRIB	b	B
CHIN, NATURE (t + sh)	ch	CH
DID	d	D
BED, PECK, PET, SAID	e	EH
BLEED, EVEN, EASY, MEET	ē	EE
FIFTY, CUFF, TOUGH	f	F
GO, GET, GIFT	g	G
HAT, AHEAD	h	H
WHALE, WHILE	hw	HW
TIP, BANISH, ACTIVE	i	IH
BUY, SIGH, SITE, TRIPE	ī	Y
JOB, EDGE, JUDGE	j	J
KIN, COOK, ACHE	k	K
LID, POOL	l	L
MURMUR, MUM, DIM, NYMPH	m	M

	PHONETICS	
	DICTIONARY	BRAINBANK
NO, OWN	n	N
THING, FINGER	ŋ	NG
BEAU, KNOW, TOE	o͞	OH
ALL, CAUGHT, GNAW, SAW	ô	AW
COIN, DESTROY, NOISE, SAWING	oï	OY
PEPPER, LIP, POP	p	P
RED, CAR, PARITY, ROAR	r	R
SOURCE, SAUCE, LESS	s	S
DISH, SHY, MISSION	sh	SH
TILE, ATTACK, TRAPPED	t	T
THIN, ETHER	th	TH
THEN, EITHER, THIS	t͟h	THH
RULE, TOOL	ü	OO
PULL, WOOD, BOOK	u̇	UH
CUT	ŭ	UHH
URGE, WORD (see ər)	ûr	UHR
VIVID, GIVE	v	V
WE, AWAY, WITH	w	W
YARD, YES	y	Y
YOUTH, UNION, FEW, CUE	yü	YOO
CURABLE, FURY	yu̇	YUH
RAISE, ZONE, ZEBRA	z	Z
AZURE, VISION, GARAGE	zh	ZH

Sometimes a schwa sound is represented by an apostrophe.
For example: bicentennial BY SEHN TEHN EE 'L
able AY B'L

THE MICROCOMPUTER: ON OVERVIEW

The Hardware: Getting Acquainted

A microcomputer can help you do a great many things. Learning to use it places miraculous power at your fingertips. However, microcomputers are not "intelligent" and cannot "think." They only will do exactly *what some human has instructed (programmed) them to do*, never more, never less.

Befriending your microcomputer requires a mutual relationship based on strict, unyielding discipline, accuracy and precision. Microcomputers must be instructed in the language they understand—and they do not understand body language, temper tantrums or obscenities!

While microcomputers come in many shapes and sizes, they all have or use similar basic parts (hardware): a central processing unit, memory, input/output devices, and input/output interfaces. Software (programs) makes the hardware work for you.

The Central Processing Unit ("CPU")

Sometimes called a microprocessor, the CPU is the brain of the microcomputer. A tiny electronic circuit contained on a chip, the CPU not only performs various operations and calculations, but it directs and coordinates other parts of the microcomputer to perform the work it has been instructed to do.

The CPU has built-in instructions specified and installed by the manufacturer. These instruction sets, which vary among different brands of microcomputers, make it possible for the microcomputer to work, accept commands, calculate, etc. The microcomputer never forgets these instructions, and generally they cannot be changed, except by experts.

One of the most important features of the CPU is its ability to interpret a language with which it will interact with humans, most commonly BASIC (Beginners All-Purpose Symbolic Instruction Code). Each microcomputer manufacturer uses a somewhat different version of BASIC, which is why a cassette or diskette programmed for one brand of microcomputer cannot be understood by (interpreted by the internal instruction set of) another brand of microcomputer.

The CPU must be furnished with instructions for the operation it is asked to do, plus information on where to get the data on which to operate, and where to put the result when the operation is complete. Required information and instructions are furnished through other parts of the microcomputer, as explained further on.

Memory

Since a CPU works on instructions sequentially, there must be a place for further instructions to be stored while a prior instruction is being worked on. The memory of a computer is its storage place. Programmed instructions are stored in the memory. As the CPU completes each instruction, it fetches another from the memory.

Microcomputers have at least two kinds of memory: Random Access Memory (RAM), and Read Only Memory (ROM).

RAM is temporary storage. It is possible to "write" into this memory: adding, changing, or deleting information in parts or all of a program. The new or altered program material can then be transmitted to diskette or cassette and stored outside the microcomputer for future reference. Without having to go through all the other stored information, any information (a word, a group of words, or more) in Random Access Memory may be accessed (referenced, deleted or changed).

Random Access Memory content remains in the microcomputer only for as long as the power remains on. If the power to the machine is turned off, the memory content is lost. You must either "SAVE" the program onto a storage medium (diskette or cassette) or leave the microcomputer on—memory chips use very little power.

RAM is measured in "K." The more K the more memory. For example, a 32K program contains approximately twice the content of a 16K program. By the same token, a 32K microcomputer can accept approximately twice as much information as a 16K machine.

ROM is memory contained on a circuit that is installed by the manufacturer or user. Like RAM, it is measured in K. Unlike RAM, it is permanent memory, unaffected by a power interruption. ROM memory can be prepared by the manufacturer to a user's specifications.

Input/Output Devices

The human brain needs its senses and the parts of its body to both receive and communicate information. Human senses input data into the brain. The body parts then respond to what the brain directs. This resulting activity is the human brain's output. Input/output devices (I/O for short) are the senses of the microcomputer.

Input devices are connected to a microcomputer, and translate their information into signals that the microcomputer can interpret. Output devices translate the microcomputer-generated signals into a language understood by humans.

I/O devices allow microcomputers not only to communicate ("interface") with humans, but with other machines as well.

Several I/O devices common to the microcomputer are:

The Keyboard

The keyboard is an input device and resembles that of a typewriter. It has keys for each character of the alphabet, for each numeral and for punctuation marks and other commonly-used symbols. Each key is actually a switch that causes electronic circuits to produce a binary digit pattern that can be sent to the microcomputer in a form it recognizes.

The symbols on the microcomputer keyboard can have more than one meaning to the microcomputer, depending on how they are used. To create your own programs, you need to learn these alternate meanings. You need not know them to use prepared software.

Video Display

The screen on a microcomputer uses a cathode ray tube (the CRT), the same type of tube as a television screen. In fact, several brands of microcomputers can use television screens for this purpose. The CRT is an output device. It displays the microcomputer's internal activity. While it also displays the user's requests, it has no part in inputting information to the microcomputer.

Magnetic Tapes and Disks

The human memory has limits to the amount of information it can hold at any time. We use "secondary" or outside storage to keep and reference information, such as notes, pictures, recordings, etc. Diskettes and cassettes are the microcomputer's form of secondary memory to store information which is beyond the K capacity of the microcomputer.

Diskettes look like 45-RPM phonograph records without grooves and with a permanent surrounding jacket which must never be removed. Storage is accomplished by recording binary information (0's and 1's) magnetically. Magnetic tape is in the familiar format of the audio cassette. In fact, audio cassette recorders can be interfaced with a microcomputer for receiving or storing program information. Again, information is recorded on a cassette magnetically.

Diskette storage's primary advantage over cassette storage is that the "head" in the disk drive which reads or writes information on a diskette, can be positioned so that any information is immediately accessible, regardless of where it may be stored physically on the surface of the diskette. Since cassette tapes are wound onto reels, the information they contain is available only in a sequential manner and the microcomputer must read through all the information preceding the desired data before it may be accessed. This process is quite time-consuming compared to the immediate conveyance of information from a diskette. The advantage to cassettes, however, is the lower cost of the I/O equipment necessary for their use.

Modems

A modulator encodes information into transmittable form. A demodulator decodes incoming information. A modem, therefore, is a device to send and to receive information to and from a computer.

Modems are used to access a computer via telephone lines. The modem converts the information to be transmitted into a series of audio tones played into a telephone. The modem at the receiving end then reconverts (demodulates) the signals into computer-readable form.

Interfaces

I/O interfaces are the link between the CPU and the I/O device. They provide the controls to allow the computer and its peripheral devices to interact correctly. The tasks performed by these devices include: starting and stopping an I/O device (printer, tape recorder) at the command of a program, determining the operational readiness of an I/O device to be used at a given point in a program, storing information signals in a buffer temporarily until the computer is ready to handle it, modifying information from the computer in some way to make it useble by an I/O device, controlling the timing of information transfers: allowing all the information to be sent at once or requiring it to be sent serially, keeping note of where a program has been interrupted, providing the user with status information on the I/O device to which it is connected without going through the Central Processing Unit.

GLOSSARY

Computer Terms

alphanumeric (ăl fə nōō mĕr ĭk). A description of a set of symbols on a computer that combines letters, numbers, and special characters.
examples: A$, A2, A(02), FOR 1 = 1 to 10.

backup diskette. A duplicate diskette kept in case the original is destroyed accidentally.

BASIC (ba sĭk). "Beginners All-Purpose Symbolic Instructional Code" is the programming language of most microcomputers.

binary (bī n ərē). Having two possible choices.

binary code. A code that makes use of only the two characters 0 and 1.

binary digit (bit). A single unit represented by either of the digits, 0 or 1.

branch (brănch). To select one from a choice of two or more sets of computer instructions.

bug (bŭg). A mistake in a computer program.

byte (bīt). Eight binary digits that operate as a unit and represent an alphanumeric character. A byte is the smallest addressable unit in a microcomputer system.
example: "A," the first letter of our alphabet, is represented within the computer as the byte: 01000001

cassette tape. Magnetic tape on which the computer can store information with electronic signals.

cathode ray tube (CRT). A television-type picture tube that displays characters and/or graphics by lighting up dots.

central processing unit (CPU). The "brain" which controls and supervises the whole computer.

character (kăr ĭk tər). Any symbol that you can type on the keyboard.

command (ka mănd). An instruction to the computer to perform a task.

computerese (kəm pyōō tər ēz). New words and new definitions of old words as they apply to computers. The words in this glossary.

core (kôr). The place where information is stored in the computer. Also called main storage or memory.

courseware (kôr swâr). A kind of software designed to instruct. Educational computer material.

cursor (kûr sər). A movable character displayed on a computer screen indicating where the next character will be displayed.

data (dā tə). Information the computer acts on when a program RUNs; Everything you input to the computer.

debug (dē bŭg). To find and remove mistakes from a computer program.

disk drive. Mechanism for holding a diskette; The drive is a device that rotates the diskette.

diskette (dĭs kĕt). A thin, flexible, plastic disk in a permanent protective jacket that stores information; The information has been "written" on its surface magnetically by computer signals sent to a disk drive.

display (dĭs plā). Pictures and words that appear on a display screen.

display screen. The part of the computer where information appears; The cathode ray tube.

enter (ĕn tər). To type information into the computer.

floppy disk. Same as a diskette.

hard copy. A printed paper copy of a computer program or report. A printed paper copy of images that appear on the display screen. Also called a printout.

hardware (härd wâr). The computer machinery, as opposed to the computer programs (the software).

head (hĕd). An electro-magnetic device on a cassette recorder or a disk drive that reads, writes, records or erases information supplied by a computer.

input (in pŏŏt). Information given to a computer through a keyboard or other peripheral device.

interface (ĭn tər fas). Communication between two computer components.

I/O. Input and output; The device used to transmit information into the computer or the device used to transmit information from the computer to the "outside" world.

K. 1,024 bytes; Also called core, memory, or main storage; An abbreviation for the unit "kilobyte." Computers hold a specific amount of K. Many computers allow for more K to be added.

keyboard (kē bôrd). A set of keys on which to type information or instructions for the computer.

keystroke (kē strōk) The typing of one letter, number, or symbol on the keyboard; Typing one alphanumeric character.

listing (lis ting). A hardcopy of programs or data.

load (lōd). To take information from storage, such as a diskette or a cassette, and put it into the computer.

loop (lōōp). Part of a computer program that repeats a given number of times.

main storage. See storage.

megabyte (měg ə bīt). One million bytes.

memory (mem ər ē). See storage.

menu (men yōō). A list of choices on the screen from which a selection is made.

menu-driven diskette. A software system that enables a user to load a selection from the menu of a diskette using only one keystroke.

microware (mī krō wâr). Programs for a microcomputer.

output (out poŏt). The final results produced by a program.

peripheral (pə rif ər əl). An attachment for a computer.
examples: printer, disk drive, game paddles, etc.

printout (prĭnt out). A listing or picture on paper made by a printer.

printer (prĭn ter). A machine that receives signals from a computer and prints out hard copy.

program (prō grăm). Instructions to a computer that tells it what to do, how to do it, and what to do with the results.

programmer (prō grăm ər). A person who writes and tests computer programs.

GLOSSARY

prompt (prŏmpt). A question the computer asks.

prompt character. A symbol that indicates that the computer is looking for input from the user.

example: The "?" or the cursor.

random access memory (RAM). Replaceable information and instruction created for or with a microcomputer.

read only memory (ROM). Permanent information and instructions built into the microcomputer.

RETURN key. The key a user presses when input is finished.

screen (skrēn). The place where you see words and images on a computer. The cathode ray tube.

simulation (sĭm yōō lā shən). To represent the functioning of another system by the execution of a computer program.

software (sôft wâr). Prepackaged program(s) for a computer.

space bar. The long narrow bar at the bottom of the keyboard. When depressed, it generates a blank character on the display screen.

storage (stôr ij). The place where information is stored in a computer system. Can be RAM, ROM, disk, tape etc. Takes in information, holds, and at a later time, returns the information.

syntax (sĭn tăks). Formal rules for how a computer program is written in a specific computer language.

tape deck. A machine for exchanging information between a cassette tape and a computer. A cassette player used with a computer.

terminal (tûr mə nəl). A machine that allows a user to "talk" with a computer at a location remote from the CPU.

track (trăk). A complete circle on a diskette where information is recorded.

variable (vâr e ə bel). A letter, or letters, or a letter and a number, that stand for a numeric value and can always be changed.
Example: Z might sometimes equal 7 (Z + 3 = 10)
Z might sometimes equal 4 (Z – 2 = 2)

write (rīt). To make a permanent record of information for the computer.

writing (rī ting). The action of the computer when it saves (records) information on storage, as onto a diskette or cassette.

A TREASURY OF BRAINWARE™
Organized for independent use.

READING COMPREHENSION
The first "R," revitalized. 50 informative stories with lively graphics. Learn to recall details, identify the main idea, draw conclusions and put things in order. Lots of practice. 25 programs. Ages 9 and up.

ENGLISH LANGUAGE
Prefixes and suffixes are building blocks of our language. Learn their usage and meaning. Improve language, reading, spelling, grammar and vocabulary skills. 27 programs. Ages 9 and up.

GRAMMAR
Homonym, synonym, antonym. . . learnin 'em! Learn differences between look-alikes, sound-alikes and opposites. Distinguish which word is which, and when. 9 programs. Ages 8 and up.

Nouns, subjects of every sentence, have personality and class. Learn the rules of capitalization and the differences between common, proper and special classes of nouns. 5 programs. Ages 13 and up.

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Be on familiar terms with your human body, seen here in a new dimension! Your fascinating systems come alive—muscular, nervous, digestive, respiratory, circulatory and skeletal. 13 programs. Ages 10 through adult.

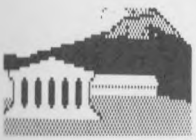
EDUCATIONAL GAMES™ for 1 to 4 players.

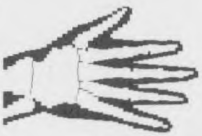
SOCIAL STUDIES
The States Game™: 50 states of the U.S.A. have their own personality, history and terrain. Learn hard facts while guessing the states from descriptive clues. 5 programs. Ages 8 and up.

The Decades Game.™ A dating game in which you learn historical facts as you determine the decades of events in U.S. politics, economics, technology, science, art and literature. 15 programs. Ages 14 and up.

GENERAL
Millionwaire™ can put YOU "in the chips." Feel like a million playing over and over. Test your nerves and your knowledge. More than 1200 questions. Challenging, entertaining, and habit-forming. Ages 12 and up.

Mystery Master—Murder by the Dozen.™ A CBS Software presentation, a **BRAINBANK** production. 12 tangled webs of crime and puzzlement, each a new challenge to your powers of deduction and detection as you search for clues and collect evidence to find the killer. Ages 14 and up.





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